

# Salomon Diei

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## Research Interests

I am passionate about advancing artificial intelligence through practical applications and theoretical understanding. My primary interests lie in Large Language Models (LLMs) and agentic AI systems, particularly exploring real-world applications. I am also eager to build solid foundations in machine learning, deep learning, computer vision, and natural language processing.

Having worked on AI projects involving retrieval-augmented generation, conversational agents, and transformer implementations, I am excited to transition from applied development to research-focused work. I am currently conducting research on multimodal AI and agents at DICE Lab, under the supervision of Professor Oh Heung Son at Korea University of Technology and Education.

## Education

- **Korea University of Technology and Education** Cheonan-si, South Korea  
*Master of Science in Artificial Intelligence* Sept 2025 – Aug 2027
  - Currently researching multimodal AI, LLMs, and agents.
- **Institut Ivoirien de Technologie** Grand-Bassam, Côte d'Ivoire  
*Bachelor of Science in Software Engineering* Sept 2020 – Aug 2023
  - GPA: 4.24/5.00 (Magna Cum Laude) - Thesis: "Implementation of a Management System for Tourist Establishments"

## AI Projects

- **Transformer from Scratch – Deep Learning Implementation** 2025  
[<https://github.com/Salomondie08/Transformer-Implementation.git>]
  - Implemented complete Transformer architecture from first principles using PyTorch with comprehensive training pipeline for sequence-to-sequence tasks
  - Created interactive web interface with real-time attention visualization and conducted ablation studies on multi-head attention components
- **SalesBot – LLM-Powered Conversational Sales Agent** 2025
  - Built intelligent sales agent with vector-based product search, automated order processing, and fallback mechanisms for ambiguous user intents
  - Achieved 89% success rate in end-to-end automated order flows using LangChain, GPT-4, and Pinecone
- **HelpAI – Retrieval-Augmented Customer Support Agent** 2024  
[<https://github.com/Salomondie08/helpai>]
  - Developed open-source RAG system using GPT-3.5/4, LangChain, and Pinecone with advanced prompt engineering and context injection to minimize hallucination
  - Implemented chunk size optimization, embedding model selection, metadata filtering, and score-based reranking for improved retrieval precision

## Software Development Projects

- **Alladjai – Home Service Platform** 2024
  - Led development team to create comprehensive home service marketplace with cross-platform mobile applications and administrative dashboard using Flutter, Vue.js, Express.js, and MongoDB
- **TourCI – Virtual Tourism Application** 2023  
[<https://tour.ci/>]
  - Developed immersive tourism app featuring 360-degree virtual experiences deployed across Web, iOS, and Android platforms using Flutter, FastAPI, and MongoDB
- **ResiCar – Rental Platform** 2023  
[<https://resicar.reinvent-labs.com/>]
  - Built comprehensive rental platform for housing and vehicle reservations with seamless booking system and payment integration using Flutter, FastAPI, and MongoDB

## Technical Skills

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- **Programming Languages:** Python, JavaScript, TypeScript, Java, Dart, SQL
- **AI/ML Frameworks:** PyTorch, TensorFlow, LangChain, Hugging Face Transformers
- **Web & Mobile:** FastAPI, Express.js, Flask, Next.js, Vue.js, Flutter, React Native
- **Databases & Cloud:** PostgreSQL, MongoDB, MySQL, Firebase, Google Cloud Platform, AWS
- **DevOps & Tools:** Docker, Git, Terraform, Apache Kafka, Apache Airflow

## Teaching Experience

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- **Teaching Assistant - Mobile Application Development** 2022 – 2023  
*Institut Ivoirien de Technologie* Grand-Bassam, Côte d'Ivoire
  - Supported "Building Mobile Applications" course covering Flutter and React Native, mentored 60+ students through projects and developed supplementary learning materials
- **Computer Science Club President & Instructor** Sep 2016 – Jul 2018  
*Lycée Scientifique de Yamoussoukro* Yamoussoukro, Côte d'Ivoire
  - Designed and delivered programming curriculum for 30+ high school students

## Professional Experience

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- **Sikili** Nov 2024 – Present  
*CTO and Supply Manager (Contract)* Remote
  - Set up internal tools to manage activities and created AI bot for sales automation while managing engineering workflows and supply chain coordination
- **BUI Corporation** May 2024 – Jun 2024  
*Software Engineer (Full-time)* Côte d'Ivoire
  - Contributed to mobile and backend application development projects while collaborating with cross-functional teams on scalable software architecture
- **Futurafric IA** Aug 2023 – May 2024  
*Technical Lead Mobile* Côte d'Ivoire
  - Oversaw end-to-end mobile app development from UI/UX design to deployment, led mobile development team, and established best practices for cross-platform development
- **Casys Technologies** Oct 2021 – Feb 2022  
*Junior Software Engineer* Côte d'Ivoire
  - Developed CLI tool to automate smart card encoding process using Javacard and Batch, improving speed by 300%

## Honors, Awards & Achievements

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- **1st Runner-Up, Supabase Flutter Hackathon** May 2023
- **1st Prize, INPHB Freelance Hackathon** Feb 2023
- **1st Prize, Orange CI 5G Challenge** Jul 2022
- **10,000 Codeurs Ambassador** Sep 2021
- **Google Cloud Associate Cloud Engineer Certification** 2023

## Leadership & Service

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- **University Student Council President** Dec 2021 – Dec 2022  
*Institut Ivoirien de Technologie* Grand-Bassam, Côte d'Ivoire
  - Led academic initiatives, organized research symposiums for 200+ students, established tech company partnerships for internships, and managed \$2,000 budget
- **Community Outreach & Advocacy** 2021 – Present
  - 10,000 Codeurs Ambassador promoting technology education across West Africa, organized digital literacy workshops for underrepresented communities, and mentored aspiring developers

## Languages

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- **Languages:** French (Native), English (Fluent - TOEIC 940/990), Korean (Intermediate - TOPIK Level 4)